

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is set forth in the ensuing listing of the claims. The listing of the claims replaces all prior claims listings.

1. (Currently amended) An airway adapter configured to substantially simultaneously provide data indicative of respiratory gas flow and of a concentration of at least two substances present in respiration of an individual, comprising:
a housing with a bore formed therethrough;
a respiratory flow detection component formed in said housing and in communication with said bore;
a first respiratory detection component ~~in communication with said bore and~~ configured to facilitate sensing of at least a first of the at least two substances without diverting respiratory gases from said housing; and
C) a second respiratory detection component ~~in communication with said bore and~~ configured to facilitate sensing of at least a second of the at least two substances without diverting respiratory gases from said housing.

2. (previously amended) The airway adapter of claim 1, wherein said respiratory flow detection component comprises:
a structure within said housing for creating therein a pressure differential in respiratory gas flow;
and
first and second pressure bores formed in said housing and located so as to facilitate detection of said pressure differential.

3. (original) The airway adapter of claim 1, wherein said first respiratory detection component comprises:
a detection chamber within said housing, a boundary of said detection chamber at least partially defined by at least one window.

4. (previously amended) The airway adapter of claim 3, wherein said boundary of said detection chamber is at least partially defined by opposed windows.

5. (previously amended) The airway adapter of claim 3, wherein said at least one window is optically compatible so as to permit a beam of infrared radiation to traverse said detection chamber.

6. (original) The airway adapter of claim 1, wherein said first respiratory detection component is configured to facilitate measurement of at least one of CO₂, N₂O, and an anesthetic agent.

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cont. 7. (original) The airway adapter of claim 1, wherein said second respiratory detection component comprises at least one luminescence quenching sensor.

8. (original) The airway adapter of claim 1, wherein said first respiratory detection component and said second respiratory detection component include at least one common element.

9. (original) The airway adapter of claim 3, wherein said second respiratory detection component is disposed on at least a portion of said at least one window.

10. (original) The airway adapter of claim 3, wherein said at least one window is formed from a polymer.

11. (original) The airway adapter of claim 10, wherein said polymer comprises a biaxially oriented polypropylene.

12. (original) The airway adapter of claim 2, wherein said structure for creating said pressure differential comprises at least one strut.

13. (previously amended) The airway adapter of claim 12, wherein said first and second pressure bores are at least partially formed within said at least one strut.

14. (original) The airway adapter of claim 13, wherein said at least one strut comprises a restriction member with at least one surface oriented so as to substantially perpendicularly face a direction of respiratory gas flow through said housing.

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15. (original) The airway adapter of claim 14, wherein said restriction member has a disk

16. (original) The airway adapter of claim 14, wherein said at least one strut includes a taper oriented toward said detection chamber.

17. (original) The airway adapter of claim 13, wherein said at least one strut is diametrically disposed and longitudinally extends within said bore.

18. (previously amended) The airway adapter of claim 17, wherein said first and second pressure bores communicate respectively with laterally spaced first and second notches formed in said at least one strut proximate a longitudinal axis of said housing.

19. (previously amended) The airway adapter of claim 18, wherein said first and second notches are oriented substantially perpendicularly relative to a length of said at least one strut.

20. (previously amended) The airway adapter of claim 3, wherein said respiratory flow detection component comprises first and second pressurization ports positioned on opposite sides of said detection chamber.

21. (previously amended) The airway adapter of claim 3, wherein said respiratory flow detection component comprises first and second pressurization ports formed in said housing on the same side of said detection chamber.

22. (original) An airway adapter, comprising:
a first detection component configured to use infrared radiation to facilitate detection of at least one substance in respiration of an individual; and
a second detection component configured to employ luminescence quenching techniques to facilitate detection of at least another substance in respiration of the individual.

c) 23. (original) The airway adapter of claim 22, further comprising a respiratory air flow
cont. detection component.

24. (original) The airway adapter of claim 22, wherein said second detection component is configured to facilitate detection of at least respiratory oxygen.

25. (original) The airway adapter of claim 22, wherein said first and second detection components have at least one element in common.

26. (original) The airway adapter of claim 22, wherein said second detection component comprises a luminescable material.

27. (original) The airway adapter of claim 26, further comprising at least one window transparent to wavelengths of radiation capable of exciting said luminescable material and emitted by said luminescable material.

28. (Currently twice amended) The airway adapter of claim 4 22, wherein said first detection component comprises a detection chamber configured to communicate with respiration

of said individual, a boundary of said detection chamber being at least partially defined by at least one window transparent to at least infrared radiation.

29. (original) The airway adapter of claim 28, wherein said second detection component comprises a luminescable material.

30. (original) The airway adapter of claim 29, wherein said luminescable material is at least partially disposed adjacent a surface of said detection chamber.

31-41. (withdrawn and cancelled without prejudice or disclaimer)

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cont. 42. (original) An airway adapter, comprising:
a housing including a bore formed at least partially therethrough;
a quantity of luminescable material in communication with said bore; and
an infrared-transparent portion in communication with said bore.

43. (original) The airway adapter of claim 42, further comprising a respiratory flow detection component in communication with said bore.

44. (original) The airway adapter of claim 42, wherein said luminescable material is at least partially located within a sampling chamber positioned adjacent said infrared-transparent portion.

45. (original) The airway adapter of claim 42, wherein said luminescable material is configured to facilitate detection of at least oxygen.

46. (original) The airway adapter of claim 42, wherein said infrared-transparent portion is configured to facilitate detection of at least carbon dioxide.

47. (original) The airway adapter of claim 42, wherein said infrared-transparent portion is configured to facilitate detection of at least nitrous oxide.

48. (original) The airway adapter of claim 42, wherein said infrared-transparent portion is configured to facilitate detection of at least an anesthetic agent in respiration.

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49. (previously amended) The airway adapter of claim 42, wherein said infrared-transparent portion is also substantially transparent to at least one wavelength of radiation that will excite said luminescable material and to at least another wavelength of radiation that is emitted by said luminescable material and that is indicative of an amount of a substance present in respiration of an individual.

50-74. (withdrawn and cancelled without prejudice or disclaimer)

75. (previously amended) An airway adapter, comprising:
a housing with a flow passage extending therethrough;
a first window in said housing for facilitating luminescence quenching measurements of at least one substance within said flow passage;
a luminescable material disposed in communication with said flow passage and adjacent said first window; and
a pair of second windows positioned in said housing on opposite sides of said flow passage for facilitating infrared measurements of at least another substance within said flow passage.

76. (original) The airway adapter of claim 75, wherein a membrane carrying said luminescable material is disposed on an inside of said first window.

77. (original) The airway adapter of claim 75, wherein said first window is positioned on a top of said housing.

78. (original) The airway adapter of claim 77, wherein each second window of said pair is positioned on a side of said housing.

79. (original) The airway adapter of claim 75, wherein said housing includes a seat for receiving a complementarily configured portion of a transducer.

80. (previously amended) The airway adapter of claim 79, wherein said seat is configured to orient a radiation source and luminescence detector toward said first window, an infrared source toward one second window of said pair, and an infrared detection component toward another second window of said pair.

81. (previously amended) The airway adapter of claim 75, further comprising a respiratory flow detection component located along another position of said flow passage than positions of said first window and said pair of second windows.

82. (previously amended) An airway adapter, comprising:
a housing including a flow passage extending through at least a portion of a length thereof;
a first window in said housing for facilitating luminescence quenching measurements of at least one substance in said flow passage;
a luminescable material disposed in communication with said flow passage and adjacent said first window; and
a second window in said housing for facilitating infrared measurements of at least another substance in said flow passage.

83. (previously amended) The airway adapter of claim 82, wherein a membrane carrying said luminescable material is disposed on an inside of said first window.

84. (previously amended) The airway adapter of claim 82, wherein said first window is positioned on a top of said housing.

85. (previously amended) The airway adapter of claim 82, wherein said second window is positioned on a side of said housing.

86. (previously amended) The airway adapter of claim 82, wherein said housing includes a seat for receiving a complementarily configured portion of a transducer.

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87. (previously amended) The airway adapter of claim 86, wherein said seat is configured to orient a radiation source and luminescence detector toward said first window and an infrared source and infrared detection component toward said second window.

88. (previously amended) The airway adapter of claim 82, further comprising a respiratory flow detection component located along another position of said flow passage than positions of said first window and said pair of second windows.

89-97. (withdrawn and cancelled without prejudice or disclaimer)
